

CLAIMS

What is claimed is:

1. A check valve comprising:
an outer region;
5 a central region;
a cut winding from the outer region towards the central region; and
wherein the check valve opens by extending the central region away from the
outer region in the presence of flow along one direction and closes by
retracting the central region towards the outer region in the presence of flow in
10 the reverse direction.
2. The check valve of claim 1 wherein the check valve opens by moving
the central region towards a fan.
3. The check valve of claim 1 wherein the check valve is on an intake side
of a blower.
- 15 4. The check valve of claim 1 wherein the check valve is on a blower.
5. The check valve of claim 1 wherein the central region further includes a
hole sliding on a shaft.
6. The check valve of claim 5 wherein the shaft is fixedly attached to a
grate.
- 20 7. The check valve of claim 5 wherein the shaft includes a hard stop for
arresting movement of the central region.
8. The check valve of claim 1 wherein the check valve has a circular
shape.
9. A method of preventing reverse air flow through a fan, the method
25 comprising:
expanding a check valve towards a center of a working blower to allow
airflow through the check valve; and

when the fan fails, collapsing the check valve to limit airflow through the check valve.

10. The method of claim 9 wherein the check valve includes one or more cuts winding from an outer region towards a central region.

5 11. The method of claim 9 wherein expanding the check valve includes sliding a central portion of the check valve.

12. The method of claim 9 wherein closing the check valve includes retracting a central portion of the check valve.

13. A check valve comprising:

10 means for expanding a check valve towards the center of a blower to allow airflow in one direction; and

means for collapsing the check valve to limit airflow in the reverse direction.

14. The check valve of claim 13 further comprising:

15 means for controlling expansion of the check valve.

15. A blower arrangement comprising:

a blower;

a check valve attached on the intake side of the blower, the check valve having a hole that slides on a shaft; and

20 a grate attached over the check valve.

16. The blower arrangement of claim 15 wherein the shaft is fixedly attached to the grate.

17. The blower arrangement of claim 15 wherein the shaft includes a hard stop to limit movement of the check valve.

25 18. The blower arrangement of claim 15 wherein the check valve further includes one or more cuts that wind from an outer region of the check valve towards a central region of the check valve.

19. A cooling mechanism comprising:

a plurality of cooling components, each cooling component in the plurality of cooling components having a check valve that includes a cut winding from an outer region towards a central region; and

5 wherein the check valve in each cooling component opens by extending the central region away from the outer region in the presence of flow along one direction and closes by retracting the central region towards the outer region in the presence of flow in the reverse direction.

20. The cooling mechanism of claim 19 wherein the plurality of cooling
10 components include a blower.

21. The cooling mechanism of claim 19 wherein the plurality of cooling components include an axial fan.